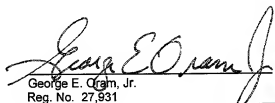


23 Rec'd PCT/PTO 23 OCT 1998

FORM PTO-1390 (REV 5-83)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. P3120-8014
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371			DATE: October 23, 1998
			U.S. APPLN. NO. (IF KNOWN, SEE 37 CFR 1.5) 09/147175
INTERNATIONAL APPLICATION NO. PCT/FR97/00740	INTERNATIONAL FILING DATE April 24, 1997	PRIORITY DATE CLAIMED April 25, 1996	
TITLE OF INVENTION: DEVICE FOR HOLDING A PAPER SHEET			
APPLICANT(S) FOR DO/EO/US: Etienne DILL and Joël SPAES			
<p>1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. (THE BASIC FILING FEE IS ATTACHED)</p> <p>2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.</p> <p>3. <input checked="" type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT articles 22 and 39(1).</p> <p>4. <input checked="" type="checkbox"/> A proper demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</p> <p>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))</p> <p>a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).</p> <p>b. <input checked="" type="checkbox"/> has been transmitted by the International Bureau.</p> <p>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US)</p> <p>6. <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</p> <p>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))</p> <p>a. <input checked="" type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</p> <p>b. <input type="checkbox"/> have been transmitted by the International Bureau.</p> <p>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</p> <p>d. <input type="checkbox"/> have not been made and will not be made.</p> <p>8. <input checked="" type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</p> <p>10. <input checked="" type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</p> <p>Items 11. to 16. below concern other document(s) or information included:</p> <p>11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input checked="" type="checkbox"/> A FIRST preliminary amendment.</p> <p><input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.</p> <p>14. <input type="checkbox"/> A substitute specification.</p> <p>15. <input type="checkbox"/> A change of power of attorney and/or address letter.</p> <p>16. <input checked="" type="checkbox"/> Other items or information: PCT/IPEA/408, Response to Written Opinion Check No. 17814 Drawings (5 sheets)</p>			

U.S. APPLN. NO. (IF KNOWN, SEE 37 C.F.R. 1.50)	INTERNATIONAL APPLICATION NO. PCT/FR97/00740	ATTORNEY DOCKET NO. P3120-8014 DATE: October 23, 1998
17. <u>xx</u> The following fees are submitted: Basic National Fee (37 CFR 1.492(a)(1)-(5)): Search Report has been prepared by the EPO or JPO.....\$930.00 International preliminary examination fee paid to USPTO (37 CFR 1.482)....\$720.00 No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)).....\$790.00 Neither international preliminary examination fee (37 CFR 1.482) or international search fee (37 CFR 1.445(a)(2)) paid to USPTO.....\$1,070.00 International preliminary examination fee paid to USPTO (37 CFR 1.462) and all claims satisfied provisions of PCT Article 33(2)-(4)\$ 98.00		CALCULATIONS PTO USE ONLY
ENTER APPROPRIATE BASIC FEE AMOUNT =		\$930.00
Surcharge of \$130.00 for furnishing the oath or declaration later than _ 20 _ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).		\$0
Claims	Number Filed	Number Extra
Total Claims	14 - 20 =	0
Independent Claims	1 - 3 =	0
Multiple dependent claim(s) (if applicable)		+ \$270.00
TOTAL OF ABOVE CALCULATIONS =		\$1,200.00
Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).		\$0
SUBTOTAL =		\$1,200.00
Processing fee of \$130.00 for furnishing the English translation later the _ 20 _ 30 months from the earliest claimed priority date (37 CFR 1.492(f)).		\$0
TOTAL NATIONAL FEE =		\$1,200.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property		\$0
TOTAL FEES ENCLOSED =		\$1,200.00
Amount to be refunded		\$
Charged		\$
a. <input checked="" type="checkbox"/> A check in the amount of \$1,200.00 to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. <u>14-1060</u> , in the amount of \$_____ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>14-1060</u> .		
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.		
SEND ALL CORRESPONDENCE TO:		
NIKAIKO, MARMELSTEIN, MURRAY AND ORAM Metropolitan Square 655 15th Street, N.W. Suite 330 - G Street Lobby Washington, D.C. 20005-5701 Telephone No. (202) 638-5000		
		George E. Oram, Jr. Reg. No. 27,931

09/147175

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Etienne DILL et al

Serial No.: New Application

Group Art Unit:

Filed: October 23, 1998

Examiner:

For: DEVICE FOR HOLDING A PAPER SHEET

PRELIMINARY AMENDMENTAssistant Commissioner for Patents
Washington, D.C. 20231

October 23, 1998

Sir:

Prior to calculation of the filing fee and prior to the examination of this application,
please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend the claims as follows:

Claim 4, line 1, change "any of the claims 1 to 3" to -- claim 1 --.

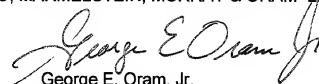
REMARKS

The above amendment to the claims has been made to correct the multiple
dependency of the claim and to put the application into better condition for examination.

In the event that any fees are due in connection with this paper, please charge our
Deposit Account No. 14-1060.

Respectfully submitted,

NIKAIDO, MARMELSTEIN, MURRAY & ORAM LLP



George E. Oram, Jr.
Attorney for Applicants
Reg. No. 27,931

Atty. Docket No. P3120-8014

Metropolitan Square
655 15th Street, N. W.
Suite 330 - G Street Lobby
Washington, D. C. 20005-5701
Tel: (202) 638-5000

GEO:lad

PCT/FR97/00740

«Device for holding a paper sheet»

This invention relates to a device for holding a paper sheet close to the vertical in order to facilitate the viewing thereof.

5 Traditionally, copyholders of different types have been used to hold document vertically.

Some of these copyholders are made of a tilted tray on which the sheet is placed and held by a gripper located on the upper section of the tray. The tray, for its own part, is held by an articulated arm, by a trestle or
10 rests on a base. The tray-type copyholders are generally rather expensive. They are often cumbersome and fixed on the workspace (the desk) or a computer screen. Handling them can prove rather tedious.

Other copyholders are made of a gripper system clamping the document by its upper section, whereas the said document hangs freely in
15 the air. Such copyholders must be installed at a certain height on a fixed and vertical bracket. (They are generally fixed using a double-faced adhesive or a suction cup on a wall or the upper section of a computer screen). Their use depends on the presence of a fixed bracket which, however, is very tricky to displace and reading a text becomes difficult
20 since the mobile sheet may oscillate freely in the air.

The purpose of this invention is to remedy the shortcomings mentioned above.

More especially, the invention must suggest a solution enabling easier handling, let alone quicker handling, of the sheet to be held, during
25 placement.

The purpose of the invention is met by a device enabling to hold a paper sheet close to the vertical in order to facilitate the viewing thereof, which comprises first holding means and second holding means which cooperate with the first holding means in order to confer to the sheet, as
30 the former is introduced between the first and the second holding means, an initial curvature which rigidifies the sheet.

The device according to the invention is intended to be placed freely on a flat surface such as a worktop or at least more or less plane a surface, such as the top of a pile of books, papers or files. In this sense, the device of the invention can be a mobile device. Moreover, this device
5 can be a small system designed to provide, thanks to an appropriate compromise between the surface that it occupies where placed at a given location and its weight as well as the tilt of the sheet when held, stable position and holding of the sheet.

The first holding means and the second holding means are formed
10 so that the first holding means hold the sheet by its back and can thus be considered as back holding means and such that the second holding means hold the sheet by its front and can thus be considered as front holding means.

According to some embodiments presented further, the first holding
15 means constitute the back section of the device whereas the second holding means constitute the front section of the device.

The device of the invention is more especially designed so that the sheet to be held can be introduced between the first holding means and the second holding means without prior deformation. The sheet is
20 therefore still plane when being fed between the first holding means and the second holding means. As a user continues to feed the sheet between the first holding means and the second holding means, the device confers, by itself, an initial vertical folding or an initial curvature since the device does not deform the sheet to the extent that a folding mark may
25 remain after the sheet has been removed from the device. The initial curvature created towards the upper angles of the sheet, two lines of force which stretch and rigidify the said sheet mechanically and permanently, for the duration of the insertion of the sheet between the first holding means and the second holding means, allowing the said sheet to be held
30 in a position close to the vertical in a stable manner.

The device according to the invention advantageously grips the

sheet only by its lower edge and over a small height.

Although the device of the invention is mainly intended for holding one or several paper sheets, this device can also be used, without departing from the framework of this invention, for holding sheets made of
 5 any other material, such as for instance paper of different thicknesses, cardboard, synthetic material, liable to be deformed elastically for the duration of the holding process of this sheet by the device according to the invention. Moreover, the invention is not limited to the use of rectangular sheets exhibiting upper angles. But, conversely, sheets of any
 10 other shapes, for instance oval or circular, can be used.

The invention also relates to the characteristics thereunder, considered individually or according to all their technically possible combinations.

- The first holding means and the second holding means
 15 define amongst themselves a space designed for accommodating the sheet, whereas the aperture of this space shrinking in the direction of insertion of the sheet.

Seen in lateral projection, the first holding means or the back section of the device and the second holding means or the front section of
 20 the device, are at their upper level distant by a space of approx. 5 to 15 mm so that the insertion of the sheet is made easier. This space shrinks towards the base of the space in order to exhibit at the base an aperture of approx. 0.2 to 3 mm. The aperture is measured, in lateral projection of the first holding means and the second holding means, as the width of the
 25 space between these means considered at the corresponding level. This shrinking can be more or less linear or, conversely, quite significant at the beginning and relatively small over the largest portion of the space.

- The first means exhibit a concave surface more or less tilted backwards and provided with two bearing zones and the second means
 30 exhibit a convex surface opposite the concave surface of the first holding means and fitted with a protrusion acting on the sheet in its section

arranged between both bearing zones.

- The concave surface comprises a recess provided by a contraction in the material of the first holding means.

- The first holding means are formed in order to exhibit mainly only bearing zones, whereas a portion of the first means located between the bearing zones is characterised at least partially by an absence of material.

This arrangement relates more particularly to two embodiments of the first holding means, i.e. a loop or a cradle on the one hand and sticks, spaced from one another, on the other.

- When the right and left hand sides of the back section are materialised by plane surfaces, the said surface can form together at the base of the device an open angle whose apex is directed to the back of the device and whose value may range from 90° to 160°, the value of 140° being particularly suited.

- When the bearing surfaces of the right and left hand sides of the back section are materialised by ridges, the protruding section can penetrate to such a depth that between these three points at the base of the device, an angle can be defined whose apex is represented by the protruding section and whose value may range from 90° to 160°, the value of 140° being particularly suited.

- The bearing surfaces of the back section can be tilted to form an angle of 45° to 85°, the value of 65° being particularly suited so that the plan of the sheet may form with the axis of the user's eye, a right angle.

- The first means and the second means or, according to a particular embodiment, the back and front sections, can be distant at the level of their upper opposite edges by a space of approx. 5 to 15 mm in order to facilitate the insertion of the sheet, whereas the value of 10 mm is particularly well suited.

- When the right and left hand bearing zones of the first means or of the back section are made of plane surfaces and when the said

surfaces are opposite plane surfaces constituting the second means or the front section, the distance between these sections may range from 0.2 to 3 mm, the value of 0.8 mm being particularly well suited.

- The back section can be mounted on an articulation interconnected to an actuating device fitted with means to hold in position against the front section and which enable to move the back section away from the front section in order to facilitate the insertion of the sheet.

- The position holding means of the back section against the front section can be a spring designed to recall automatically the back section against the front section and to bring the back section close to the front section by a gripping effect.

- The device according to the invention comprises, besides the first holding means and the second holding means, at least third holding means and fourth holding means. Whereas the first and second holding means cooperate to hold a first sheet, the third and fourth holding means cooperate in order to confer to a second sheet, distant from the first one, an initial curvature which rigidifies this second sheet.

This arrangement enables to provide a device according to the invention comprising a number of holding means, whereas these means are arranged in pairs, the first and second means forming a first pair, the third and fourth means forming a second pair and so on. This arrangement enables more particularly to hold a number of sheets placed behind one another and spaced from each other. Besides this aligned disposition, it is conceivable that the pairs of holding means are arranged offset laterally or offset in decreasing height, for instance from the back to the front.

Other characteristics and advantages of the invention will be outlined by the description of a few embodiments illustrated thereunder with reference to the drawings. On these drawings:

Figure 1 represents, seen from a $\frac{3}{4}$ profile angle, a first embodiment of the device according to the invention.

Figure 2 represents the device of Figure 1, seen from the left.

Figure 3 represents the device of Figure 1 as a cross section along A-A.

Figure 4 represents an exploded view of the front and back sections of the device of Figure 1.

Figure 5 represents a cross section of a second embodiment of the device according to the invention.

Figure 6 represents, seen from a $\frac{3}{4}$ profile angle, a third embodiment of the device according to the invention.

Figure 7 represents the device of Figure 6 as a cross section along B-B.

Figure 8 represents, seen from a $\frac{3}{4}$ profile angle, the device of Figure 6 with a paper sheet.

Figure 9 represents, seen from a $\frac{3}{4}$ profile angle, a fourth embodiment of the device according to the invention.

Figure 10 represents the device of Figure 9 seen as a lateral projection.

Figure 11 represents, seen from a $\frac{3}{4}$ profile angle, an embodiment of a light device according to the invention.

Figure 12 represents the device of Figure 11 seen as a lateral projection.

Figure 13 represents, seen from a $\frac{3}{4}$ profile angle, an embodiment of the device according to the invention for several spaced sheets.

Figure 14 represents the device of Figure 13 seen as a lateral projection.

Figure 15 represents a variation of the device of Figure 6.

According to the embodiment represented on Figures 1 to 4, the device comprises a back section 1 and a front section 2 between which is defined a space 13 intended for accommodating a paper sheet 3 to be held. The rear section 1 is slightly tilted. Along its vertical axis of symmetry is also a recess 4 provided by a contracted zone in the material

of the back section and created for accommodating a protruding element 5 in the front section 2. Two bearing zones 8, 9 can be found on either side of the recess 4. When the user inserts the sheet 3 between both sections, back 1 and front 2 sections, the protruding element 5 of the front section which pushes the sheet 3 inside the recess 4 of the back section 1 forces the said sheet to form a fold or a curvature 6, which creates lines of force 7 spreading towards the upper corners of the sheet 3. The rigidity thus obtained is sufficient to hold the sheet 3 in immobile position.

In the embodiment according to Figures 1 to 4, the back section 1 exhibits a concave surface 14 tilted backwards and the front section exhibits a convex surface 15. The concave surface 14 comprises the bearing zones of the right 8 and left 9 hand sides of the back section 1 made of plane surfaces 16, 17 forming among them an open angle which corresponds to the folding degree of the sheet 3, whose apex is directed towards the back of the device and whose value ranges from 90° to 160°, whereas the value of 140° is particularly well suited to cause sufficient folding 6 at the bottom of the sheet 3 whereas this folding would not prove detrimental to the user when viewing the document.

The bearing zones 8, 9 are tilted backwards so that once the sheet has been inserted in the device, it lies approximately at right angle with respect to the user's eye in order to facilitate the viewing thereof. To take into account the mean height of the user in relation to the sheet, this tilt can have a value of 45° to 85°, whereas an angle of 65° is generally well suited.

The device of the invention such as represented on Figures 1 to 4 is composed of two separate sections 1 and 2 making up respectively the first and the second holding means of the device. The section 2 is fixed, for instance glued, on the section 1.

However, it is also conceivable that, as a variation, the device is single-block if made of a massive material or it can be formed, at least, of a shell open downwards and delineating the same space 13 as the device

according to Figures 1 to 4. In the latter case, the inside of the shell can be filled, at least partially, with a heavy material, possibly a granular material, such as metallic small shot, and enclosed by a plate.

The back section 1 and the front section 2 define between them a space 13 intended for accommodating the sheet 3 whose aperture a_1 is much wider at the upper level of the device than at the base of the space 13. The space 13 whose aperture a_1 , measured at the upper level of the device corresponds to a value ranging from 5 mm to 15 mm, shrinks towards the bottom of the space, so that the space, seen along a cross section A-A from the front to the back of the device, exhibits the shape of a funnel enabling easy insertion of the sheet in the device. The surfaces 14 and 15 guide the sheet easily towards the bottom of the device where the recessed 4 and protruding 5 zones can be found.

On either side of the recess 4, the front 2 and back 1 sections exhibit opposite plane surfaces, separate at the base of the space 13 by a distance a_2 which may range from 0.2 mm to 3 mm, whereas the value of 0.8 mm is sufficient for easy insertion of one to five sheets of ordinary paper (80 g) whereby the folding conferred to the sheet is not marked permanently, even when the protruding section 5 is materialised by a ridge.

In the embodiment according to Figure 5, the back section is composed of a plate 31 and the front section of a plate 32 interconnected to a base plate 33. The plate 31 is articulated on an axis 10 situated at the base of the back section, parallel to the lower plane of the device and perpendicular to the bisectrix of the angle defined by the sides 8 and 9. The plate 31 is interconnected to a lever 11 which enables it to toggle away from the front section 32 when the user depresses the lever 11 in order to facilitate the insertion of the sheet 3. While the user depresses the lever 11, the plate 31 and the front section 32 form, temporarily, a space corresponding to the space 13 of the device according to Figures 1 to 4. A spring 12 tends to push the back section 1 against the front section

32 with sufficient pressure to force the sheet 3 to hug the shapes of the front and back sections.

In case when the device is made of a light material (plastic material), it is provided with removable attachment or counterweight means, such as a double-faced adhesive, under its base.

In the embodiment represented on Figures 6 to 8, the first holding means are constituted by an element 41, an arc of a circle or an oval arc, whose extremities are interconnected to a base plate 43. The extremities of the element 41 constitute bearing zones 48 and 40 whose function corresponds to the bearing zones 8 and 9 of the embodiment according to Figure 1. The second holding means are made of a tongue 42 shaped in order to exhibit a protruding section 45 performing the same function as the protrusion 5 of the embodiment according to Figure 1. The tongue 42 is linked by its lower end to the base plate 43.

Whereas each of the bearing zones 48 and 49 of the element 41 extends mainly in a given plane, the tongue 42 shows a curvature to obtain the protruding section 45. The inside of the element 41 encloses a zone 44 provided by the absence of material and fulfilling the same function as the recess 4 of the embodiment according to Figure 1. The element 41 thus formed and the tongue 42 thus formed constitute the funnel for the insertion of the sheet to be held as well as the bearing and protruding zones necessary for stable holding of the sheet 3. Figure 7 shows just this in a cross section along the B-B line specified in Figure 6. Figure 8 represents this layout with a sheet 3 inserted in the device according to the invention.

According to a variation represented on Figure 15, the element 41 and the tongue 42 can be linked to the base plate 43 by an articulation 46.

In the embodiment represented on Figures 9 and 10, the bearing surfaces of the back section are provided by ridges 51 and the protruding section, made of a ridge 52, penetrates between them at the level of the

base of a recess 54 to such a depth that between these three element, an open angle is delineated, whose apex is represented on the base of the protruding section 5 and whose value ranges from 90° to 160° , whereas the value of 140° is particularly well suited.

5 The ridges 51 and 52 are arranged and tilted in order to fulfil the functions the bearing surfaces 58, 59 corresponding to the bearing surfaces 8 and 9 of the embodiment according to Figure 1, as well as the functions of the protruding section 55 corresponding to the protrusion 5 of the said embodiment, while providing a space 53 in the shape of a funnel
10 in order to facilitate the insertion and the placement of the sheet to be held.

Besides the arrangement of the ridges 51 and 52, Figure 10 shows more particularly an advantage of the device according to the invention, common to all the embodiments. It relates to the small height h on which
15 the means representing the bearing zones of the first holding means and the protrusion of the second holding means overlap each other partially, seen as a lateral projection. The height h of this interaction zone is approx. 2 cm and is sufficient to confer, to the sheet to be held, sufficient curvature to ensure the requested rigidity of the sheet to be held.

20 The embodiment of the device according to the invention, such as represented on Figures 11 and 12 differs from the other embodiments described so far since it reminds of the shape of a sheet. This sheet, which is more or less rectangular, is curved, as seen as a lateral projection, and composed of a first section 61 and a second section 62,
25 separate by a space 63. The space 63 is delineated by an element 64 interconnected to the first section 61 and an element 65 interconnected to the second section 62, whereas the elements 64 and 65 are linked together at the base of the space 63. The elements 64 and 65 are folded or curved in order to constitute respectively bearing zones, a protrusion
30 and a space intended for accommodating the sheet to be held, whereas the space has the shape of a funnel shrinking downwards. The device in

general and the elements 64, 65 in particular, thus reproduce the essential sections and functions of the embodiment according to Figure 1.

The device of the invention according to the embodiment represented on Figures 11 and 12 can be made of synthetic material, such as for instance an ABS (acrylnitrile-butadiene-styrene) resin. The device of the invention is therefore easy to produce, for instance by injection. In order to obtain a stability comparable to that of a device manufactured according to the embodiment of Figure 1, the area of the support on which the device will rest, must be wide enough to guarantee that the centre of gravity of a sheet to be held for a range of selected sizes and weights, does not come out of the surface covered by the device.

Whereas the sizes of the device according to Figure 1 are approx. 4 cm in height, 6 cm in depth and 5 cm in width, with a weight of 110 to 120 g when it is filled with small shot, the sizes of the device according to Figure 11 become 5 cm in height and width, 12 cm in length. Its weight is approx. 25 g.

According to the embodiment represented on Figures 13 and 14, the device of the invention is formed by an oblong body comprising, in this order, a rear section 21, two intermediate sections 27, 28 and a front section 26, each of these sections being separate from the adjacent section by a space 13A, 13B or 13C intended for holding a sheet 3A, 3B or 3C. The spaces 13A, 13B and 13C are arranged at three different levels in order to place the sheets on staggered heights, which enables to receive them simultaneously.

Whereas the back section 21 and the front section 26 correspond, as regards their shapes and functions, respectively to the back section 1 and the front section 2 of the device according to Figure 1, the intermediate sections 27 and 28 are formed in order to fulfil the function of the front section as well as the function of the back section.

To this end, the intermediate section 27 is formed on the side 22

opposite the back section 21, as a front section and on the side 23 opposite the intermediate section 28, as a back section. In the same way, the intermediate section 28 comprises a side 24 arranged opposite the intermediate section 27 and shaped as a front section and a side 25 arranged opposite the front section and formed as a back section. Thus, the device comprises three pairs of holding means referred to respectively as 21/22, 23/24 and 25/26. The shapes and the functions of these means correspond essentially to those of the first and second holding means 1 and 2, their detailed description is omitted to avoid repetitions.

The holding device represented on Figures 13 and 14 is a single block, approx. 10 cm in length, 6 cm in width at the back and 5 cm at the front of the device, 6 cm at the back and 4 cm at the front of the device.

The device according to the invention is particularly intended for users who, within the framework of their activities, studies or leisure time, need to view easily a document on paper (text, drawing, picture, photo). It can be made of different materials such as for instance crystal, cast aluminium, bronze, stainless steel, sanded paper pulp, possibly coloured, and wood. In the light version, the device can be made of, besides ABS resins, any other plastic material, and particularly advantageously, polypropylene.

The space between the first and the second holding means can be obtained, notably for devices made of a non-cast massive material, by spark machining or any other appropriate abrasive process.

The reference signs inserted after the technical characteristics mentioned in the claims solely aim at facilitating the understanding of the latter and do not limit their extent in any way.

CLAIMS

1. A device enabling to hold a paper sheet close to the vertical in order to facilitate the viewing thereof, characterized in that it comprises first holding means (1) and second holding means (2) which cooperate with the first holding means (1) in order to confer to the sheet (3) gradually, as the latter is introduced between the first and the second holding means (1, 2), an initial curvature which rigidifies the sheet (3).

2. A device according to claim 1, characterised in that the first holding means (1) and the second holding means (2) delineate among them a space (13) intended for accommodating the sheet (3) and whose aperture (a) shrinks in the sense of introduction of the sheet.

3. A device according to claim 1 or 2, characterised in that the first means (1) exhibit a concave surface (14) slightly tilted backwards and provided with two bearing zones (8, 9) and the second means (2) exhibit a convex surface (15) opposite the concave surface (14) and fitted with a protrusion (5) acting on the sheet in its section arranged between both bearing zones (8, 9).

4. A device according to claim 3, characterised in that the concave surface (14) comprises a recess (4) provided by a contraction in the material of the first holding means (1).

5. A device according to claim 3, characterised in that the bearing zones (8, 9) of the first means (1) are composed of plane surfaces delineating between them at the base of the space (13) an obtuse angle whose apex is directed towards the back of the device and whose value ranges from 90° to 160°.

6. A device according to claim 3, characterised in that the bearing zones (8, 9) of the first means (1) are materialised by ridges (16, 17) and in that the protruding section (5) penetrates to such a depth that between these three points at the base of the device (13), an angle can be defined whose apex is represented by the protruding section (5) and whose value may range from 90° to 160°.

7. A device according to any of the claims 3 to 6, characterised in that the bearing zones (8, 9) of the first means (1) are tilted with respect to the horizontal plane in order to delineate an angle whose value ranges from 45° to 85°, so that the plane of the sheet (3) delineates with the axis of a user's eye, approximately a right angle.

8. A device according to claim 1 or 2, characterised in that the first means (41, 51) are formed in order to exhibit essentially bearing zones (8, 9) only, whereas a portion of the first means, between the bearing zones (8, 9) consists at least partially of an absence of material.

9. A device according to claim 1, characterised in that the first means (31) are mounted on an articulation (10) interconnected to an actuating body (11) fitted with holding means (12) in position against the second means (32), whereby the actuation of the said body (11) enables to spread the first means (31) from the second means (32) in order to facilitate the placement of the sheet (3).

10. A device according to claim 1, whose first and second holding means (21, 22) are intended for holding a first sheet (3A), characterised in that it comprises at least third holding means (23) and fourth holding means (24) working together with the third holding means (23) in order to confer at least to a second sheet (3B), spaced from the first sheet (3A), an initial curvature which rigidifies the second sheet (3B).

11. A device according to claim 1, characterised in that the first holding means are composed of a back section (1) fitted with at least two bearing zones, right and left (8, 9), slightly tilted backwards and between which is provided a recess (4), in that the second holding means (2) are composed of a front section (2) comprising opposite the recess (4) a protruding zone (5) intended for penetrating into the recess (4), whereas the sheet (3) to be held can be inserted between the back section (1) and the front section (2) so that during the introduction of the sheet (3) into the device, the protruding zone (5) confers at the bottom of the sheet (3) a vertical fold (6) curving the sheet and creating, towards the upper angles

of the sheet (3) lines of force (7) which stretch and rigidify the said sheet (3).

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022
1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040
1041
1042
1043
1044
1045
1046
1047
1048
1049
1050
1051
1052
1053
1054
1055
1056
1057
1058
1059
1060
1061
1062
1063
1064
1065
1066
1067
1068
1069
1070
1071
1072
1073
1074
1075
1076
1077
1078
1079
1080
1081
1082
1083
1084
1085
1086
1087
1088
1089
1090
1091
1092
1093
1094
1095
1096
1097
1098
1099
1100
1101
1102
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
1113
1114
1115
1116
1117
1118
1119
1120
1121
1122
1123
1124
1125
1126
1127
1128
1129
1130
1131
1132
1133
1134
1135
1136
1137
1138
1139
1140
1141
1142
1143
1144
1145
1146
1147
1148
1149
1150
1151
1152
1153
1154
1155
1156
1157
1158
1159
1160
1161
1162
1163
1164
1165
1166
1167
1168
1169
1170
1171
1172
1173
1174
1175
1176
1177
1178
1179
1180
1181
1182
1183
1184
1185
1186
1187
1188
1189
1190
1191
1192
1193
1194
1195
1196
1197
1198
1199
1200
1201
1202
1203
1204
1205
1206
1207
1208
1209
1210
1211
1212
1213
1214
1215
1216
1217
1218
1219
1220
1221
1222
1223
1224
1225
1226
1227
1228
1229
1230
1231
1232
1233
1234
1235
1236
1237
1238
1239
1240
1241
1242
1243
1244
1245
1246
1247
1248
1249
1250
1251
1252
1253
1254
1255
1256
1257
1258
1259
1260
1261
1262
1263
1264
1265
1266
1267
1268
1269
1270
1271
1272
1273
1274
1275
1276
1277
1278
1279
1280
1281
1282
1283
1284
1285
1286
1287
1288
1289
1290
1291
1292
1293
1294
1295
1296
1297
1298
1299
1300
1301
1302
1303
1304
1305
1306
1307
1308
1309
1310
1311
1312
1313
1314
1315
1316
1317
1318
1319
1320
1321
1322
1323
1324
1325
1326
1327
1328
1329
1330
1331
1332
1333
1334
1335
1336
1337
1338
1339
1340
1341
1342
1343
1344
1345
1346
1347
1348
1349
1350
1351
1352
1353
1354
1355
1356
1357
1358
1359
1360
1361
1362
1363
1364
1365
1366
1367
1368
1369
1370
1371
1372
1373
1374
1375
1376
1377
1378
1379
1380
1381
1382
1383
1384
1385
1386
1387
1388
1389
1390
1391
1392
1393
1394
1395
1396
1397
1398
1399
1400
1401
1402
1403
1404
1405
1406
1407
1408
1409
1410
1411
1412
1413
1414
1415
1416
1417
1418
1419
1420
1421
1422
1423
1424
1425
1426
1427
1428
1429
1430
1431
1432
1433
1434
1435
1436
1437
1438
1439
1440
1441
1442
1443
1444
1445
1446
1447
1448
1449
1450
1451
1452
1453
1454
1455
1456
1457
1458
1459
1460
1461
1462
1463
1464
1465
1466
1467
1468
1469
1470
1471
1472
1473
1474
1475
1476
1477
1478
1479
1480
1481
1482
1483
1484
1485
1486
1487
1488
1489
1490
1491
1492
1493
1494
1495
1496
1497
1498
1499
1500
1501
1502
1503
1504
1505
1506
1507
1508
1509
1510
1511
1512
1513
1514
1515
1516
1517
1518
1519
1520
1521
1522
1523
1524
1525
1526
1527
1528
1529
1530
1531
1532
1533
1534
1535
1536
1537
1538
1539
1540
1541
1542
1543
1544
1545
1546
1547
1548
1549
1550
1551
1552
1553
1554
1555
1556
1557
1558
1559
1560
1561
1562
1563
1564
1565
1566
1567
1568
1569
1570
1571
1572
1573
1574
1575
1576
1577
1578
1579
1580
1581
1582
1583
1584
1585
1586
1587
1588
1589
1590
1591
1592
1593
1594
1595
1596
1597
1598
1599
1600
1601
1602
1603
1604
1605
1606
1607
1608
1609
1610
1611
1612
1613
1614
1615
1616
1617
1618
1619
1620
1621
1622
1623
1624
1625
1626
1627
1628
1629
1630
1631
1632
1633
1634
1635
1636
1637
1638
1639
1640
1641
1642
1643
1644
1645
1646
1647
1648
1649
1650
1651
1652
1653
1654
1655
1656
1657
1658
1659
1660
1661
1662
1663
1664
1665
1666
1667
1668
1669
1670
1671
1672
1673
1674
1675
1676
1677
1678
1679
1680
1681
1682
1683
1684
1685
1686
1687
1688
1689
1690
1691
1692
1693
1694
1695
1696
1697
1698
1699
1700
1701
1702
1703
1704
1705
1706
1707
1708
1709
1710
1711
1712
1713
1714
1715
1716
1717
1718
1719
1720
1721
1722
1723
1724
1725
1726
1727
1728
1729
1730
1731
1732
1733
1734
1735
1736
1737
1738
1739
1740
1741
1742
1743
1744
1745
1746
1747
1748
1749
1750
1751
1752
1753
1754
1755
1756
1757
1758
1759
1760
1761
1762
1763
1764
1765
1766
1767
1768
1769
1770
1771
1772
1773
1774
1775
1776
1777
1778
1779
1780
1781
1782
1783
1784
1785
1786
1787
1788
1789
1790
1791
1792
1793
1794
1795
1796
1797
1798
1799
1800
1801
1802
1803
1804
1805
1806
1807
1808
1809
1810
1811
1812
1813
1814
1815
1816
1817
1818
1819
1820
1821
1822
1823
1824
1825
1826
1827
1828
1829
1830
1831
1832
1833
1834
1835
1836
1837
1838
1839
1840
1841
1842
1843
1844
1845
1846
1847
1848
1849
1850
1851
1852
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862
1863
1864
1865
1866
1867
1868
1869
1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900
1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036
2037
2038
2039
2040
2041
2042
2043
2044
2045
2046
2047
2048
2049
2050
2051
2052
2053
2054
2055
2056
2057
2058
2059
2060
2061
2062
2063
2064
2065
2066
2067
2068
2069
2070
2071
2072
2073
2074
2075
2076
2077
2078
2079
2080
2081
2082
2083
2084
2085
2086
2087
2088
2089
2090
2091
2092
2093
2094
2095
2096
2097
2098
2099
2100
2101
2102
2103
2104
2105
2106
2107
2108
2109
2110
2111
2112
2113
2114
2115
2116
2117
2118
2119
2120
2121
2122
2123
2124
2125
2126
2127
2128
2129
2130
2131
2132
2133
2134
2135
2136
2137
2138
2139
2140
2141
2142
2143
2144
2145
2146
2147
2148
2149
2150
2151
2152
2153
2154
2155
2156
2157
2158
2159
2160
2161
2162
2163
2164
2165
2166
2167
2168
2169
2170
2171
2172
2173
2174
2175
2176
2177
2178
2179
2180
2181
2182
2183
2184
2185
2186
2187
2188
2189
2190
2191
2192
2193
2194
2195
2196
2197
2198
2199
2200
2201
2202
2203
2204
2205
2206
2207
2208
2209
2210
2211
2212
2213
2214
2215
2216
2217
2218
2219
2220
2221
2222
2223
2224
2225
2226
2227
2228
2229
2230
2231
2232
2233
2234
22

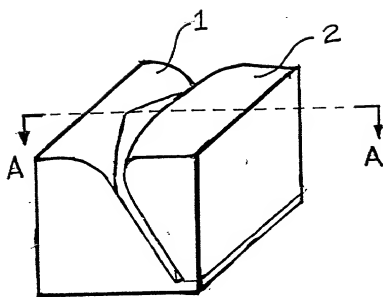


FIG. 1

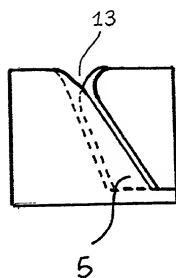


FIG. 2

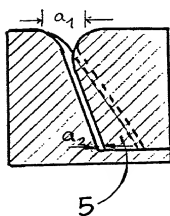
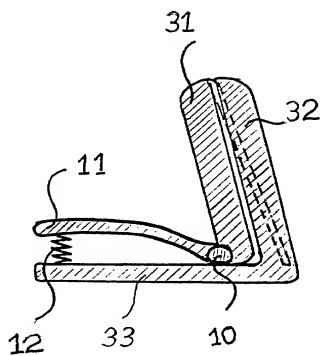
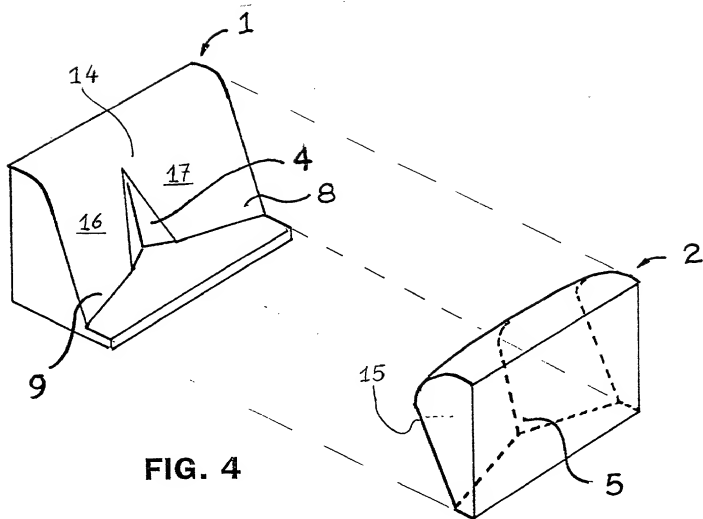
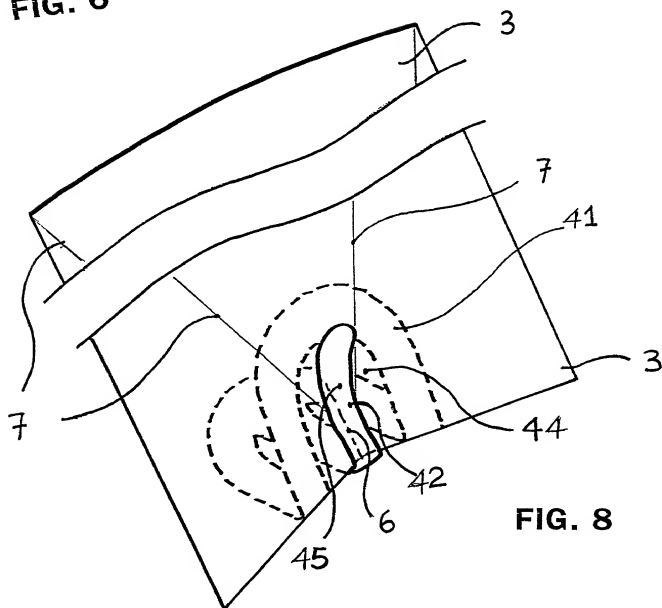
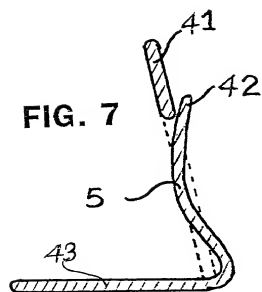
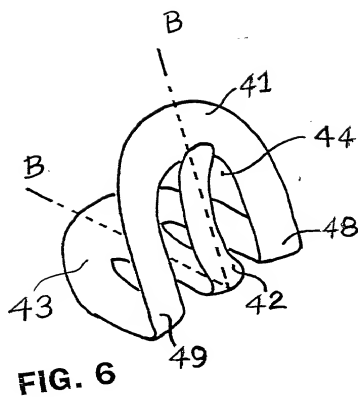


FIG. 3





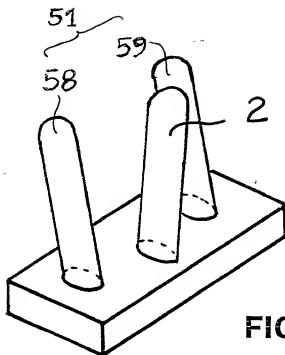


FIG. 9

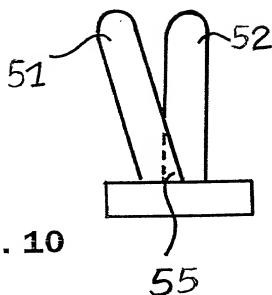


FIG. 10

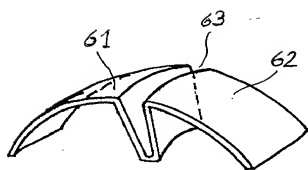


FIG. 11

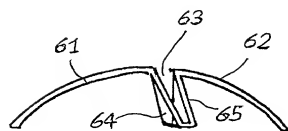


FIG. 12

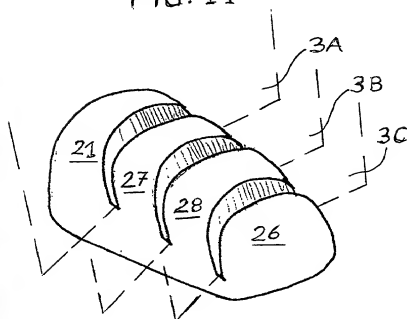


FIG. 13

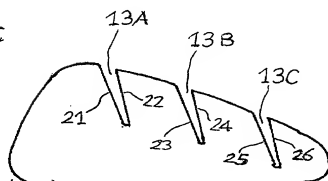


FIG. 14

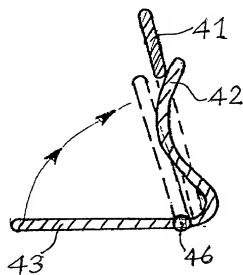


FIG. 15

Declaration For U.S. Patent Application

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled (insert Title) Device for holding a paper sheet

the specification of which

(Check one of blocks 1, 2, or 3. See note A on back of this page)

1. ☐ is attached hereto.

2. ☒ was filed on April 24, 1997 as
International PCT Application Serial No. PCT/FR 97/00740
and was amended on _____
(if applicable)

3. ☐ was filed on _____ as
U.S. Application Serial No. _____
and was amended on _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application for which priority is claimed.

	96 05218	FRANCE	25/04/1996	Priority Claimed
(Number)		(Country)	(Day/Month/Year Filed)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(Number)		(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No
(Number)		(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No
(Number)		(Country)	(Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No

4. List prior foreign Applications. (See Note B on back of this page)

(See Note C on back of this page)

☐ See attached list for additional prior foreign applications

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(List Prior U.S. Applications)	(Application Serial Number)	(Filing Date)	(Status) (patented, pending, abandoned)

And I hereby appoint as principal attorneys David T. Nikaido, Reg. No. 37,663; Charles M. Marmelstein, Reg. No. 25,885; George E. Oram, Jr., Reg. No. 27,931; Robert B. Murray, Reg. No. 22,980; Martin S. Postman, Reg. No. 18,570; E. Marcie Enas, Reg. No. 32,131; Michael G. Gilman, Reg. No. 19,114; Douglas H. Goldhush, Reg. No. 33,125; Juan Carlos Marquez, Reg. No. 34,072; Robert L. Waddle, Reg. No. 35,795; Kevin C. Brown, Reg. No. 32,402; Monica F. Chin, Reg. No. 36,105.

Please direct all communications to the following address: NIKAIDO, MARMELESTEIN, MURRAY & ORAM
Metropolitan Square
655 Fifteenth Street, N.W., Suite 330 - G Street Lobby
Washington, D.C. 20005-5701
(202) 638-5000 Fax: (202) 638-4810

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

(See Note D on back of this page) Full name of sole or first inventor Etienne DILL ETIENNE DILL
Inventor's signature [Signature] 9th February 1999
Residence 28, rue Mehul - 93500 PANTIN - FRANCE Date
Citizenship French
Post Office Address Same as above

2-00
Full name of second joint inventor, if any

Joel SPAES

Joel SPAES

Inventor's signature

plx

9th February 1999
Date

Residence 26, rue Gambetta - 92150 SURESNES - FRANCE

Citizenship French

Post Office Address Same as above

Full name of third joint inventor, if any

Inventor's signature

Date

Residence

Citizenship

Post Office Address

Full name of fourth joint inventor, if any

Inventor's signature

Date

Residence

Citizenship

Post Office Address

Full name of fifth joint inventor, if any

Inventor's signature

Date

Residence

Citizenship

Post Office Address

Full name of sixth joint inventor, if any

Inventor's signature

Date

Residence

Citizenship

Post Office Address

Full name of seventh joint inventor, if any

Inventor's signature

Date

Residence

Citizenship

Post Office Address

Full name of sixth joint inventor, if any

Inventor's signature

Date

Residence

Citizenship

Post Office Address